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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/722,750 | 11/26/2003 | E. H. Kelle Zeiher | 7591-CO1 | 7290 |

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| EXAMINER |
|---|
| DRODGE, JOSEPH W |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1723 | |

Nalco Company
Patent & Licensing Department
1601 W. Diehl Road
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DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/722,750 | ZEIHER ET AL. | |
| | Examiner | Art Unit | |
| | Joseph W. Drodge | 1723 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *26 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

ClaimS 1-10,13,15-19 and 26-29 are rejected under 35 U.S.C. 102(b) as being anticipated by translated Abstract for Japanese publication 10-282,410.

The Japanese publication discloses monitoring a parameter (leakage) of a membrane separation process, the membrane being of the reverse osmosis type (para. 6), by injecting an inert fluorescent tracer into the feed stream and providing of a fluorometer to detect signals of the tracer in a stream, permeate or concentrate, downstream of the membrane (See Abstract, figure 1, and paragraphs 10 and 11 in particular).

Regarding claims 2, 26,27 and 29, presence or amount of leakage constitute a process parameter, since such leakage may occur during use of the membrane.

Regarding claims 3,16 and 17, see page 4, "any of a variety of membrane shapes".

Regarding claims 4,5 and 18, see the list of tracers in paragraph 7 encompassing numbered fluorescent brighteners.

Regarding claim 6, see "food dyes", "natural dyes".

Regarding claims 7-9,19 and 28, see page 4 "extremely small amount" and page 5, paragraph 18 regarding specific amounts of added dye.

Regarding claims 13 and 15, page 2 referering to "ultrapure water" infers production of water for claimed electronic and pharmaceutical manufacturing.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoots et al patent 5,435,969 in view of Al-Samadi patent 6,113,797 and if necessary, in view of Richardson et al patent 5,242,602.

Hoots et al disclose, with respect to the instant independent claims, operating of a membrane separation process, feeding of treating chemicals to feed streams, adding of inert fluorescent tracers to monitor levels of treatment chemicals and other parameters with a fluorometer to determine amounts of tracers present, at least upstream of the membranes adjacent the inlets. Also disclosed is such monitoring being associated with responsively actuated control of membrane operations (see especially column 8, lines 10-30).

The claims differ in requiring the membrane to be of the reverse osmosis type. Al-Samadi teaches addition of treatment chemicals to the feed streams of varied types of membranes including reverse osmosis membranes (beginning in the Abstract). It would have been obvious to one of ordinary skill in the art , at the time of the invention, to have utilized a reverse osmosis type membrane in the system of Hoots et al, as taught by Al-Samadi, in order to utilize the advantage of very high water recovery (high flux rates achievable). Al-Samadi teaches that such membranes require controlled additions of the treatment chemicals for optimum operation.

If necessary, Richardson et al explicitly teach to use chemical tracers so as to control feeding of chemicals to various water separation systems (column 8, lines 19-54).

Concerning dependent claims directed to specific process parameters, see Hoots et al at column 12, lines 43-52 and Richardson et al at column 8, lines 30-53, etc.

Concerning dependent claims directed to amounts of tracers fed, see Hoots et al at column 13, lines 50-54 (proportional amounts of tracers) and column 16, lines 51-64 (ppb to ppm amounts).

Concerning claims directed to particular tracer formulations, see Hoots et al at column 26, line 21-column 27, line 60.

Concerning types of membrane structures and flow arrangements, see Al-Samadi at column 13, lines 39-46.

Concerning specific industrial process dependent claims, see Hoots et al at column 8, lines 21-31.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 11 and 12 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 34-42 of copending Application No. 10/109,256. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are directed

to the same inventive concept, being slightly broader in not specifically reciting "propotional amount".

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can reached at 571-272-1151. The fax phone number for the examining group where this application is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

April 5, 2004

JOSEPH DRODGE
PRIMARY EXAMINER